GENDER DIFFERENCES IN PATIENTS INCLUDED IN REHABILITATION PROGRAMME AFTER CORONARY REVASCULARIZATION

Summary: 349 patients (271 men, 78 women) were discharged from Cardiology and Cardiovascular Surgery after revascularization procedures. 299 from these patients (233 men - 86%, 66 women - 85%) were addressed to the Cardiac Rehabilitation Clinic. The age was higher in women (63.6 ± 3.6 years vs. 57.2 ± 5.5 years, p < 0.05), but there were no differences regarding the number of grafts (2.3 ± 0.4 - women vs. 2.5 ± 0.3 - men) in patients with CABG, and the number of implanted stents: 59 men with 1 stent (60.8%), 33 men with 2 stents (34.02%), 5 men with 3 stents (5.15%) vs. 11 women with 1 stent (57.89%), 7 women with 2 stents (36.84%) and respectively 1 woman with 3 stents (5.26%). There were no significant statistic differences regarding hospitalization period in men vs. women (7.7 ± 1.3 days vs. 7.9 ± 1.9 days). 159 men (69%) and 44 women (65%) were selected for in hospital physical training (8.1 ± 1.5 days vs. 9.2 ± 2.1 days, p < 0.05). The other 96 patients (74 men, 22 women) have performed 4 weeks of ambulatory physical training 5 times/week. The compliance to the physical training was higher in women (4 ± 0.7 trainings/week vs. 3 ± 1.4, p < 0.01). Before and after the evaluation period, the effort capacity was measured by the 6-minute walk test. After one month the effort capacity was measured by the 6-minute walk test and the emotional status by "Depression Scale" – score 0-30. The benefit was the same in both groups – the ambulated distance increased with 12.5% (men – 397 ± 42 m vs. 447 ± 43 m, women – 340 ± 26 m vs. 382 ± 46 m). Regarding the emotional status, initially there was no significant difference between genders, and then we have observed that women who trained in hospital or in ambulatory present a more evident improvement of the emotional status (men – 16 ± 3 vs. 7 ± 3, women - 15 ± 2 vs. 5 ± 1).

Even if there were some slight differences between the two groups (e.g. number of men was 3.5 time higher than number of women and women were 6 years older than men) the benefit of the rehabilitation program was the same in both groups (the ambulated distance, depression score). We have selected the patients and we have customized the rehabilitation program in order to obtain a higher benefit regarding the effort capacity. The prevalence of depression is increased in coronary patients, but its symptoms decrease after physical training. This study excludes the presence of Yentl syndrome (gender discrimination - women treated less optimal in the management of coronary heart disease than men) in daily activities, early after revascularization.

Keywords: rehabilitation program, coronary revascularization, Yentl syndrome.

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Introduction:

The existence of a discrimination regarding the less optimal treatment and management of cardiovascular disease in women has been discussed in the cardiology community. This phenomenon was called “Yentl Syndrome”, by the name of Isaac Bashevis Singer’s novel heroine – Yentl – who had to disguise as a man in order to learn the Talmud in a Jewish boys school in XIX century Poland. [1, 2]

This possibility determined us to do a three-year-follow-up of coronary patients discharged from Cardiology and Cardiovascular Surgery Clinics of Institute of Cardiovascular Disease Timisoara and addressed to the Cardiac Rehabilitation Clinic. The number of stents and grafts, hospitalization period, the compliance to exercise training programme (ambulated distance, emotional status) [5, 6] has been taken into account.

Material and method

From Cardiology and Cardiovascular Surgery Clinics 349 patients - 271 men and 78 women were discharged after revascularization procedures, 299 out of them were addressed to the Cardiac Rehabilitation Clinic: 233 men represent 86% of all discharged men (Figure 1), and 66 women – 85 % of all discharged women (Figure 2).

We observed that age was higher in female patients (63.6±3.6 years vs. 57.2 ±5.5 years, p<0.05) than in male patients (Figure 3).

There were no differences in number of by-pass grafts (2.3 ± 0.4 in women vs. 2.5 ± 0.3 in men) in patients discharged from Cardiovascular Surgery Clinic.

There were no significant differences in number of stents applied to male and female patients in the Cardiology Clinic: 59 men with 1 stent (60.8%), 33 men with 2 stents (34.02%), 5 men with 3 stents (5.15%) vs. 11 women with 1 stent (57.89%), 7 women with 2 stents (36.84%), 1 woman with 3 stents (5.26%).

Hospitalisation duration of patients in Cardiology and Cardiovascular Surgery Clinics showed no significant statistic difference between men and women (7.7 ± 1.3 days vs. 7.9 ± 1.9 days).

All the patients addressed to the Cardiac Rehabilitation Clinic performed early exercise effort testing limited by symptom (steps of 10 W).

159 men (69% - 8.1 ± 1.5 days) and 44 women (65% - 9.2 ± 2.1 days) were selected for in hospital physical training.
All the other 96 patients (74 men, 22 women) performed 4 weeks of physical training 5 times/week in ambulatory.

Results

The physical training compliance was higher in women than in men (4 ± 0.7 times/week vs. 3 ± 1.4 times/week, p < 0.01).

After one month training we evaluated the effort capacity (6-minute walk-test) and the emotional status (“Depression Scale” – score 0-30).

The benefit was the same in both groups – the ambulated distance increased with 12.5% (men – 397 ± 42 m. vs. 447 ± 43 m., women - 340 ± 26 vs. 382 ± 46 m.). (Figure 4)

As regards the emotional status, initially there was no significant difference between men and women. We observed that women who performed physical training in hospital or ambulatory present a more evident improvement of the emotional status than men (men – 16 ± 3 vs. 7 ± 3, women - 15 ± 2 vs. 5 ± 1). (Figure 5)

Discussions

Even if there were small differences between groups (e.g., number of male patients was 3.5 times higher than that of female patients and female patients were 6 years older than male) the benefits of training programme were the same in both groups (ambulated distance in 6 minute walking-test, depression scale). [3, 4]

We selected the patients and tailored individual training programmes in order to obtain the highest benefits regarding the effort capacity. [8]

Therefore, the in-hospital training programme had an intensity of 70-75% of maximum heart rate (ET), 10 min. – warm-up (light exercises to avoid muscle-skeletal lesions and to produce a gradual increase of the heart rate), 30-40 min. – conditioning (combined exercises of respiration, muscle force, resistance, development of joints mobility, relaxation, isometric exercises (to be avoided in patients with heart failure and arrhythmia), classical – continuous/ fractionated exercises (3-5 minute effort, 1-2 minute repose), 10 minute – recovery.

For the patients that performed an ambulatory exercise training the intensity was 60-75% of the maximum heart rate, warm-up (5-10 minutes), aerobic exercises + kinesthesiology (20 – 30 minutes) and recovery (5 – 10 minutes). [10, 12, 13, 14]

In coronary patients the prevalence of depression is high, but the intensity of symptoms decreases after physical training. That is explained by a higher

Figure 4. Benefits of physical training evaluated by 6 minute walking test

Figure 5. The Emotional status before and after 1 month of training.
self-esteem and by a gradual integration in the social life achieved through the increase of effort capacity. [7, 11]

Conclusions

This study excludes the presence of Yentl Syndrome (discrimination of women coronary patients in terms of assistance and treatment) [9] in daily activities, in assisting the patients throughout early periods after revascularization and rehabilitation phase II of coronary revascularised patients.

References:

11. Pitzalis M, Yentl syndrome. The underestimate of cardiovascular risk in women, Ital Heart J Suppl (Italy), Feb 2005, 6(2) p72-6